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Executive Pay Disclosure, Peer Effects, Political Pressure and Firm Performance

임원 연봉 공개 법이 기업의 성과와 연봉 수준 변화에 미치는 영향

2020년 8월

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Abstract

Executive Pay Disclosure, Peer Effects, Political Pressure and Firm Performance

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The 2013 *FISCMA* (Financial Investment Services and Capital Markets Act) in Korea required firms to disclose individual pay information of executives receiving more than 500 million KRW. Using a large panel data of 1,341 unique firms in Korea over the 2011-2016 period, this paper investigates whether the amended disclosure law has affected firms' executive compensation level, firm performance and pay-performance sensitivity. Using a difference-in-differences regression analysis, I find that executive compensation increases in the *bottom ranked group* (bottom 30%) firms and decreases in the *top ranked group* (top 30%) firms, where group rankings are based on the level of average executive compensation in the pre-law period.

In addition, while firm performance of the *bottom ranked group* firms increased, firm performance of the *top ranked group* firms decreased following the passage of the *FISCMA*. The results are similar for pay–performance sensitivity. The academic literature on the determinants of executive pay has been divided between two contrasting viewpoints: managerial entrenchment and tournament theory. Overall, the results of this paper supports the latter view. This paper examines a positive correlation between the change in executive compensation and firm performance in both ranked firm groups, which identifies that the level of compensation packages in Korea reflects the tournament theory.

Keywords: FISCMA, Executive Compensation, Tournament Incentives, Political Pressure, Peer Effects

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Table of Contents

List of Tables

1. Introduction

Media all over the world has raised attention, whether the increasing gap between executive to median employee compensation is pertinent. Following the 2008 subprime mortgage crisis, debates over the rise in executive compensation has resulted in regulations to prevent excessive executive compensation in many countries. For example, the 2010 Dodd-Frank Act in the United States has enacted regulations for executive compensation, so called the Say on pay law, which enabled shareholders the right to vote on chief executive officer compensation packages. Other 11 developed countries passed legislations for Say on pay laws between 2000 and 2012 to give shareholders direct influence on CEO compensation policies and several countries either are contemplating or have recently adopted such laws (e.g., Switzerland and France). Countries that have not adopted the Say on pay law and even those that have are continuing to impose stricter policies by adopting executive pay and pay ratio (executive to median employee compensation) disclosure laws. Since 2009, Japan has adopted regulations requiring public firms to disclose information about base salaries, bonuses, stock options, and additional income for directors whose compensation exceeds 100 million Japanese yen (Boyd et al., 2012). The European Union

Commission recommended publicly traded companies to disclose their policies on executive remuneration, as well as the levels and form of each individual executive's pay. Canada required firms listed on the Toronto Stock Exchange to disclose the amount of individual compensation of the five highest paid executives since 1993 (Park et al. 2001). Other countries (e.g., United Kingdom, Germany, Brazil, Israel, Korea etc.) have and are imposing similar regulations.

The 2013 Financial Investment Services and Capital Markets Act (*FISCMA*) in Korea has enhanced the disclosure of individual executive compensation. The new legislation required listed firms to disclose pay information of registered executives receiving more than 500 million KRW. Since 1999, when the *Financial Supervisory Service* in Korea was first established, all listed firms were required to disclose the aggregate level of executive compensation. However, such disclosure law in the past had many limitations to shareholders and firms in terms of calculating the exact compensation information of peer group firms[1]. Supporters of the act argue

1. Similar to Say on pay laws around the world, executive compensation packages in Korea have to be approved during annual general meetings. However, compensation packages are approved in the aggregate level. The distribution of compensation is solely decided by the board of directors. For example, if total executive compensation of 10 billion KRW was approved for 10 executives, shareholders cannot tell whether executive compensation has been distributed equally (1 billion KRW each), or if one executive received most of the approved compensation package

that the *FISCMA* will restrict managerial entrenchment, lower monitoring costs and increase firm performance. However, the *FISCMA* has also been criticized due to the large threshold of only requiring executives that are paid more than 500 million KRW, which is, on average, limited to large firms. In addition, firms may have incentives to circumvent the law by using various loopholes. For example, firms might unregister previously registered executives, since the law only applies to registered executives. Most importantly, the regulation may provide incentives to firms with individual executive pay packages near 500 million KRW to change their pay structure in order to avoid the discomforts of disclosure by using non-monetary rewards, which are less visible. Therefore, proponents argue to develop a stricter version of pay disclosure amendment. On the other hand, critics raise concern about negative side effects of the disclosure law and argue that the outcomes of such regulations will be marginal. News about highly paid directors may cause relative deprivation and exacerbate labor-management relations. It may also distort public perceptions of executive compensation and cause antipathy toward high rewards especially in countries like Korea where social perceptions regarding equality is strong.

In response to these concerns, I examine the effects of the 2013 *FISCMA* disclosure law. In addition, such amendment is suitable to test

whether the level of executive pay in Korea is based on managerial entrenchment or tournament incentives. The purpose of the enhanced disclosure regulation is to reduce excessive executive compensation and to offer acceptable incentives to managers for performance improvement. However, previous research has shown that regulations on compensation rarely succeed in reducing pay level (Perry and Zenner, 2001; Park et al., 2001). According to the *Financial Supervisory Service* in Korea, average executive to median employee compensation in Korea is ranked on the bottom of the list among developed countries, which opens the possibility that such regulatory act might not result as the previous intentions of the law, but would rather increase compensation due to efficient peer group benchmarking (Bijzak and Lemmon 2008) as compensation structures of peer groups become more transparent.

The closest related research paper regarding the *FISCMA* is *(Kim et al. 2017)*. *Kim et al. (2017)* has examined that individual executive compensation has increased following the 2013 *FISCMA*. This study differs from *Kim et al. (2017)* since the main focus of this paper is to test the existence of managerial entrenchment or tournament incentives using aggregate average executive compensation. *Kim et al. (2017)* collect data of executive pay at the individual level, limited to those that have continuously

disclosed their pay information for the whole sample period. However, such research specification does not perfectly solve endogeniety problems and selection bias for the purpose of my research question. While they examine an increase in individual executive compensation following the *FISCMA*, most of the executives who maintain their status as registered executives and decides to disclose their compensation packages might be limited to those that are confident about disclosing their information. Therefore, to solve endogeniety problems, I rank all 1,341 individual firms in to three groups (30%, 40%, 30%) based on the level of executive compensation in the pre-law period. I use the top 30% (*top ranked group*) and bottom 30% (*bottom ranked group*) ranked firm groups for my analysis. I find that the enhanced disclosure regulation reduces executive pay level for *top ranked group* firms. In the post-law period, the same group of firms decrease in pay-performance sensitivity and firm performance. Executive compensation has risen for *bottom ranked group* firms following the *FISCMA*. Pay-performance sensitivity and firm performance has increased for the same firms in the post-law period. Following the literature, a positive correlation between the change in executive compensation and firm performance is evidence of the tournament theory. A negative correlation between the change in executive compensation and firm performance is evidence of managerial entrenchment.

Overall, this paper examines a positive correlation between the change in executive compensation and firm performance, which examines the existence of tournament theory in Korea.

One reason why *top* and *bottom ranked group* firms appear to have opposite effects (while the results of both groups support the tournament theory) can be explained by political pressure. 41% of the firms within the *top ranked group* pays an average of more than 500 million KRW in executive compensation in the pre-law period. None of the firms in the *bottom ranked group* pays an average of more than 500 million KRW in executive compensation in the pre-law period[1]. Therefore, *top ranked group* firms might have incentives to change their pay structure or unregister previously registered directors due to political pressure, which will reduce the amount of average executive pay in the following year[2]. *Bottom ranked group* firms on average are exempted from political pressure. Therefore, following *Bizjak et al. (2008)*, enhanced information on executive compensation of peer groups

1. As previously mentioned, since the distribution of executive compensation is dependent on the board of directors, average executive compensation might not be suitable to roughly conclude that none of the executives in the low ranked group has a compensation package of over 500 million KRW. However, since this study examines the effect on both ranked groups on average, such concern is not related to this specific study.
2. Data on executive compensation is the actual amount of paid compensation in the following year, which differs from approved executive compensation during annual general meetings. These two measures are usually different.

for *bottom ranked group* firms increases the possibility of efficient compensation benchmarking. An important notion is that while previous literature on political pressure argue that usually larger firms are scrutinized more by the public, due to the characteristics of the *FISCMA*, public pressure might focus solely on the level of executive compensation rather than firm size characteristics, which will be revisited in the latter section of this paper.

Political pressure is hard to measure and examine. *Jensen and Murphy (1990)* examine political pressure by comparing different event periods when there was strict political regulation to loose political regulation. Due to the lack of time series data, I use a 1 to 1 matched sample data with both ranked firm groups based on firm size characteristics (*total assets, total sales, market value of equity*). Firm size could serve as a proxy for regulatory sanctions and public scrutiny (Bannister and Newman 2003; Gong, Li, and Shin 2011), both of which could induce firms to avoid disclosing their average executive pay. *Robinson et al. (2011)* show that the SEC review of firm compliance under the new compensation disclosure rules has focused on larger firms. Matching based on firm size characteristics is important, since it provides the basis to test the characteristics of political pressure that is either related to the level of public openness or level of executive compensation in the pre-law period. If the effect of political pressure on firms are focused

solely on the level of executive compensation in the pre-law period, I would expect similar results using the firm size characteristics matched sample. I also use the same pre-law ranked firms and conduct the same difference in differences regression analysis in the post law period and examine that pay level does not change (unreported), which supports the notion that such results are in effect due to the 2013 *FISCMA*.

This paper contributes to the literature in several important ways on executive compensation regulations for listed Korean firms. Empirical research regarding firm compensation policies in Korea remains scarce. To my knowledge, this is the first paper to test whether the compensation structure in Korea is a result of managerial entrenchment or tournament incentives using the 2013 *FISCMA*. In addition, I find that laws with high thresholds contribute differently regarding variations in firm characteristics (level of executive compensation for this specific research paper). The remainder of this paper is organized as follows. The next section provides an overview of the supporting literature review on executive compensation. Section 3 describes the methodology, research specification and sample construction. The last three sections consider the empirical results and conclusions / discussions of this study.

2. Literature Review

The intention of executive compensation disclosure laws is to provide a more transparent compensation structure to shareholders and prevent managerial entrenchment, which can negatively affect firm performance. Such laws also limit the seemingly excessive levels of executive pay, tighten the pay-performance sensitivity, which facilitate a closer alignment of shareholders' interests (Correa et al. 2016, Bebchuk et al. 2011). However, the literature on such executive compensation policies is mixed. Previous empirical studies have provided little evidence on the effectiveness of the initial intentions of compensation regulations. *Murphy (2011)* demonstrates that for the most part, compensation regulations have generally been either ineffective or counterproductive. Similarly, *Park et al. (2001)* show that while compensation disclosure in Canada has improved pay-performance sensitivity, total executive pay has increased in the post-law period. The Internal Revenue Code section 162(m) in the United States, which was a tax legislation to limit the deductibility of non-performance-related compensation over one million dollars, also had marginal effects on reducing compensation growth rates (Perry and Zenner, 2001).

The academic literature on the determinants of executive pay has

been divided between two contrasting viewpoints: managerial entrenchment and tournament incentives (Bertrand 2009, Frydman and Jenter 2010, Murphy 2013). Proponents of the managerial entrenchment theory argue that both the level and composition of executive pay are results of rent seeking executives. In this view, executives skim the surplus generated in the firm by constructing their own pay-performance structure, regardless of the actual improvement in firm performance. *Correa et al. (2016) and Bebchuk et al. (2011)* find a decrease in CEO pay following the passage of Say on pay laws around the world along with an increase in firm performance, which argues that pay regulations are an effective governance mechanism to capture managerial entrenchment. *Ertimur et al. (2011)* find that activists target firms with high and excessive executive pay, and that voting significantly reduces overall average executive pay. Contrast to managerial entrenchment is the tournament theory. *Kaplan (2007)* argues that executive pay is largely determined by market forces at the optimal level, which will lead to inefficient consequences following mandatory shareholder votes and disclosures on compensation packages. Tournament theory suggests that rank-order tournaments within the firm level encourage competition, which ultimately leads to better performance and higher firm value. Therefore, reductions in executive compensation can reduce firm value (Kale, Reis, and

Venkateswaran, 2009; Burns, Minnick, and Starks, 2016). Corporate promotion tournaments are an important mechanism, since this competition to win the tournament is the catalyst in tournament theory for higher effort and more payoffs for firms (e.g., Lazear and Rosen 1981, Green and Stokey 1983, and Kale et al. 2009, Mueller 2019). Recent empirical studies examine the effects on cross country cultural differences on executive tournament structures. *Burns et al. (2016)* finds that countries that value power distance, competition, and differences in income due to differing levels of efficiency, experience steeper tournament structures and appear to be even more effective.

The effect of increased disclosure of executive compensation on the efficiency of executive pay is complex. For example, *Jensen and Murphy (1990)* identify two opposing effects of increased disclosure on the efficiency of executive pay. On the one hand, they argue that the public disclosure of top management compensation can help improve executive pay practice by providing a safeguard against looting by management in collusion with captive boards of directors. On the other hand, they identify the possibility that public antipathy toward high rewards impose constraints that reduce pay-performance sensitivity in an open disclosure environment due to political pressure. This can indeed cause negative outcomes to shareholders (Boone et

al. working paper 2020). *Murphy (1999)* provides an extensive review of executive compensation research, most of which examines various facets of executive compensation practices under a single consistent compensation disclosure regime.

Empirical studies about executive compensation in the Korean Market is yet to be discovered. *Yun et al. (2014)* find a decrease in pay-performance sensitivity after the amendment of the *FISCMA*, which they interpret that strong pressure for public disclosure results in inefficient compensation structure. *Shin et al. (2014)* find that firms' decisions to disclose executive pay strategically are positively associated with weaker corporate governance and lower firm performance. They also find that the larger a firm is, the less likely it will manage average executive pay strategically, suggesting that highly visible firms are more concerned about potential regulatory sanctions and subsequent negative public attention. This is consistent with the results of this paper that political pressure is an important factor that determines firms' incentives to circumvent the *FISCMA* disclosure rule. *Kato et al. (2007)* examine that pay-performance sensitivity of executives is mostly driven by non-chaebol firms. *Kim et al. (2017)* use individual compensation data of disclosed executive pay packages (executives receiving more than 500 million KRW) and find that

compensation has increased on average following the 2013 *FISCMA*. Executives that are paid less than their peer firms experience an increase in compensation at a faster rate compared to others.

3. Methodology

3.1 Sample Construction

Information on average executive compensation in Korea has been reported since the establishment of the *Financial Supervisory Service* in 1999. However, it was not until 2009 when the *Financial Supervisory Service* required all listed firms to disclose information regarding executive compensation packages. Since the intentions of this study is to examine the effects of *FISCMA*, I collect data since the mandatory rule by the *Financial Supervisory Service* when information on executive compensation for all listed firms started to become available. Overall, the sample period of this study ranges from 2011 to 2016 (*Even though information on executive compensation was first released in 2009, until 2011, due to the lack of a clear unified format, many companies reported average executive compensation including outsider directors and auditors. In addition, due to the*

announcement of a newly amended FISCMA in 2016, I purposely use data only up to 2016 in concern with biased estimators). Since the *FISCMA* only applies to registered executives, I exclude outside directors and non-executive directors from the sample. In the case of auditors, their compensation does not exceed 500 million KRW except at retirement; thus, I exclude auditors from the sample as well. I also exclude firms with (1) missing compensation information for the whole sample period (2) unavailable financial data (3) change in composition of board members.

[INSERT TABLE 1 HERE]

I collect information on average executive compensation packages and governance related data of sample firms from *TS2000*, which is a database containing information on various business reports of listed companies in Korea, and financial information from *DataGuide 5.0*, which is one of the most widely used financial database in Korea. Data on large business conglomerate classification was collected from the *Korea Fair Trade Commission* (KFTC) (*The reported compensation information only consists of cash and realized equity based compensation. However, similar to Kim et*

al. (2017), the amounts of granted stock options have been disclosed since 1997, and thus it is not related with the purpose of this study). **Table 1** provides summary statistics for executive compensation and control variables used in the regression analysis. The final data consists of 8046 firm-year observations (1,341 firms, 402 firms in the *High Ranked Group*, 402 firms in the *Low Ranked Group*) in the analysis. Consistent with previous findings, average executive compensation is positively skewed, which provides another logical reason to rank firms based on executive compensation in the pre-law period. **Table 2** provides the Spearman correlation among all the variables used in the analysis. Although some variables such as net sales and size happen to show a large positive correlation, I check for the variance inflation factors and confirm that none of the variables have a max VIF score of more than 5, which states that multi-collinearity is not an issue.

[INSERT TABLE 2 HERE]

3.2 Research Specification

The *FISCMA* was first amended on May 28, 2013 and was enforced

starting November 29, 2013. According to *Kim et al. (2017),* since executive compensation packages for 2013 had already been set during the annual general meetings in the previous year, executive compensation level in 2013 was unaffected by the new disclosure regulation (*They use executive compensation level in 2013 as the pre-law compensation level for comparison*). Thus the year 2013 serves as the base year to distinguish companies that were unable to remove executives with abnormal compensation. This is evident according to data collected from *TS2000*, where 86 companies had reported individual compensation of executives in 2013 and none of the same executives have appeared afterwards (*While it is arguable that this was due to retiring executives, some of the same executives appeared in business reports in the post-law period with compensation of less than 500 million KRW*). In addition, news coverage regarding the *FISCMA* has reported that previously registered executives have unregistered their status, which allows them to be exempted from the mandatory disclosure rule. According to *Seoul Finance,* 15.5% of the 239 primary companies in Korea reported a status change of previously registered executives. Most of these executives were family group affiliated. While I cannot tell whether newly unregistered executives have been paid more than 500 million KRW in the pre-law period, I can at least conclude that year 2013 does not fully capture

the effects of the *FISCMA*. While it is true in theory that most compensation packages (*especially cash compensation*) are set in the previous year, news reports provide evidence that companies can use various loopholes to circumvent policies that stand against their interests. Therefore, in order to capture the full effects of *FISCMA*, I label data from 2011 to 2012 as the pre-law sample period and 2013 to 2014 as the post-law sample period. In addition, to examine the effects of the *FISCMA* on firm performance, I use firm performance data from 2015 to 2016, since there exists a time difference for the effects of the law to reflect firm performance measures.

In order to solve endogeniety problems, I rank firms into three groups (30%, 40%, 30%) based on the level of executive compensation in the pre-law period. I label the bottom 30% firms as *bottom ranked group* and top 30% firms as *top ranked group*. I also run a separate analysis by ranking firms within different industries using the same methodology in order to capture unobserved industry effects. I exclude financial firms from the sample.

3.3. Empirical Models

To examine changes in executive compensation policies around the passage of *FISCMA*, I estimate the following panel data regression with firm,

year, and industry fixed effects:

$$(1)\quad Log\ (Compenation)_{it} = \alpha + \beta_1 * Rank_{it} + \beta_2 * FISCMA_{it} + \beta_3 * Rank_{it} * FISCMA_{it} + \gamma * FirmPerformance_{it} + \delta * Firm\ Controls_{it} + \theta * Industry\ Controls_{it} + \varepsilon_{it}$$

where the dependent variable is the natural logarithm of average executive compensation and change in average executive compensation for firm *i* in year *t. FISCMA* is a dummy variable that equals one for the time period following the passage of *FISCMA*, and zero otherwise. *Rank* is a dummy variable that equals one for *Bottom Ranked Groups*, and zero otherwise and equals one for *Top Ranked Groups*, and zero otherwise. *Firm Performance* is the return on assets and annualized stock returns. Firm controls measure firms' other financial and governance conditions. Different from most research on the Korean market, I include leverage and stock return volatility as a proxy for firm risk, which are shown by prior studies to influence executive compensation. All continuous variables are winsorized at the 1% level. The firm and year fixed effects specification allows me to fully exploit the panel nature of the data set, and to control unobserved time-invariant heterogeneity.

The coefficient estimates on β_3 is the difference-in-differences estimators of the change in the level of pay around the *FISCMA*. Since I run a similar analysis by using industry ranked groups, I purposely do not include industry adjusted variables on the main regression specification.

$$(2)\quad Log\ (Tobin's\ Q)_{it} = \alpha + \beta_1 * Rank_{it} + \beta_2 * FISCMA_{it} + \beta_3 * Rank_{it} * FISCMA_{it} + \gamma * FirmPerformance_{it} + \delta * Firm\ Controls_{it} + \theta * Industry\ Controls_{it} + \varepsilon_{it}$$

Whether or not the level of executive compensation is a result of managerial entrenchment or tournament incentives can be tested by the change in firm value in the post-law period using the same group of firms. In general, firm value can increase following the *FISCMA* through a stronger link between pay-performance sensitivity and reduced abnormal levels of executive pay. However, corporate boards are likely to have more information, compared with shareholders, regarding the abilities of the executives. *Shin et al. (2014)* argues that firms face political pressure to disclose compensation information due to the concerns of negative public attention. The *FISCMA* might impose shareholder and political pressures to firms, which can lead to sub optimal

results. Thus, an alternative hypothesis is a decrease in firm value following *FISCMA* due to a deviation from the optimal executive compensation policies. Following Correa et al. 2016, I test whether the *FISCMA* is associated with changes in firm value measured by the natural logarithm of firm *i*'s Tobin's Q at time *t* using the same ranked firm groups in the previous analysis as in Eq. (1).

$$
\begin{aligned}
(3)\quad & Log\ (Compensation)_{it} \\
& = \alpha + \beta_1 * FISCMA\ Controls_{it} + \beta_2 * Rank\ Controls_{it} \\
& + \beta_3 * Firm\ Performance\ Controls_{it} \\
& + \beta_4 * FISCMA_{it} * Firm\ Performance_{it} * Rank_{it} \\
& + \delta * Firm\ Controls_{it} + \theta * Industry\ Controls_{it} + \varepsilon_{it}
\end{aligned}
$$

I also investigate whether the amended disclosure rule strengthens pay-performance sensitivity. Following *Andjelkovic et al. (2002)* and *Correa et al (2016),* I run a pay-performance relation test by including a triple interaction term amongst *FISCMA*, firm Performance, and different rank groups as in Eq. (3). β_4 is the difference-in-differences estimator of interest. Firm performance includes both accounting and market based performance, which are return on assets and annualized stock returns.

[INSERT TABLE 3 HERE]

4. Empirical Results

This section provides the empirical results of the models presented earlier. I first run a mean different test to show that the main results are not derived from changes in firm characteristics. **Table 3** shows the results of the mean difference test, where firm characteristics of both ranked groups from the pre-law period to the event period is tested. The p-value shows that all of the key firm characteristics are not statistically different between the two periods. Overall, the results show that the sample firms are well matched on average. Other than dealing with outliers, this is mostly due to the advantage of ranking firms based on the level of executive compensation from the pre-law period (Bizjak et al. 2008). I, therefore, include these characteristics variables as controls in the empirical tests.

[INSERT TABLE 4 HERE]

Results from estimating the baseline regression specification in Eq. (1) are reported in **Table 4**. This table presents results of changes in the level of executive pay around the passage of the *FISCMA*. The first two columns show results of the effect *on top and bottom ranked groups*, based on the level of average executive compensation in the pre-law period of the whole sample. The last two columns show results of the effect on both ranked groups, based on the level of executive compensation in the pre-law period within different industry sectors. The first two column demonstrates that the *bottom* and *top* dummy is significantly negative and positive (*coefficient: -0.7971, 0.9743 standard error: 0.0219, 0.0212*) at the 1% level, which show that mechanically low paid firms experience decreasing rates of executive compensation and high paid firms experience increasing rates of executive compensation throughout the sample period. This makes complete logical sense, since top (bottom) firms are usually those that perform above (below) average compared to others. In addition, when I run yearly cross-sectional regressions, average executive compensation in the bottom (top) ranked group mechanically decreases (increases) compared to other non-bottom (non-top) ranked group firms. However, the difference-in-differences estimators show that compared to the level of executive compensation in the pre-law period, bottom firms experience an increase in executive

compensation and high firms experience a decrease in executive compensation following the passage of *FISCMA*. These results are also statistically significant at the 1% level *(coefficient: 0.01973, -0.2004 standard error: 0.0333, 0.0324).* Following Iliev and Vitanova 2019, Panel B of **Table 4** runs the same regression specification in Eq. (1) with the dependent variable as the percentage change in average executive compensation. The difference-in-differences estimator show similar results. *Bottom ranked group* firms experience an increase in change of executive compensation and *top ranked group* firms experience a decrease in change of executive compensation following the passage of *FISCMA*. These results are also statistically significant at the 1% level *(coefficient: 0.0.0322, -0.0356 standard error: 0.0017, 0.0017).*

[INSERT TABLE 5 HERE]

Changes in executive compenation can lead to different outcomes in firm performance. If the level of executive compensation from the pre-law period was at the optimal level, then whatever the reasons, a decrease in

executive compensation can lead to sub optimal compensation packages, which will hurt firm value in the long run. Similarly, if the level of executive compensation from the pre-law period was not at the optimal level, then an increase or decrease in executive compensation can lead to better future firm value. **Table 5** shows the results of the regression specification from Eq. (2). Firms included in the *bottom and top ranked firms* are exactly the same firms as I used in the previous analysis. Considering the fact that firm performance might not be reflected immediately due to the change in executive compensaiton levels, I use the sample period of 2013, 2014 (event period) to 2015, 2016 (post-law period). The difference-in-differences estimators are statistically significant at the 1% level and shows that the *bottom ranked group* experience an increase in firm performance, while the *top ranked group* experience a decrease in firm performance *(coefficient: 0.0461, -0.0486 standard error: 0.0163, 0.0135)*. This is consistent with the literature on tournament incentives where reductions in executive compensation can reduce firm value (Kale, Reis, and Venkateswaran, 2009; Burns, Minnick, and Starks, 2016). Consistent with the literature on tournament incentives, the results confirm that the executive pay level for high ranked firms were at the optimal level in the pre-law period. Executive pay in low ranked group firms were below the optimal level of compensation packages, which eventually

increases following the *FISMCA*, due to more transparent information about peer group firms. This is also consistent with the results of *Bizjak et al. (2008)*, where they argue peer benchmarking is an efficient process. Overall, the results of the analysis provide clear evidence of tournament incenteives in South Korea.

[INSERT TABLE 6 HERE]

One other factor of interests in the literature is how such pay regulations has contributed to the pay-performance sensitivity in the post-law period. If the *FISCMA* was used as a mechanism to correct pay policies due to monitoring failure, the sensitivity of executive compensation to firm performance should tighten following the *FISCMA*. However, based on the pervious results, I have confirmed that changes in executive compensation and firm performance follow a positive correlation. Therefore, for the *top ranked group*, if the compensation package in the pre-law period was at the optimal level, then I can expect a decrease in pay-performance sensitivity. On the other hand, due to efficient peer group benchmarking, executive compensation in the *bottom ranked group* increased followed by an increase

in firm performance as well. Since compensation packages in the pre-law period for *bottom ranked group* firms were under the optimal level, I can expect an increase in firm performance sensitivity following the passage of *FISCMA*. Both rankings from the whole sample and industry level have shown similar results in the previous analysis, and therefore, I only use whole sample rankings for further analysis of this paper for brevity. **Table 6** shows the results of the regression specification in Eq (3). The first two columns test pay-performance sensitivity where firm performance is measured as return on assets. The next two columns measure firm performance as annualized stock returns. Consistent with the previous results, I find that pay-performance sensitivity in the *bottom ranked group* firms increase and decrease for *top ranked group* firms in the post-law period *(coefficient: -0.0144, 0.0092 standard error: 0.0049, 0.0470)*. However, pay performance sensitivity measured as annualized stock returns is not statistically significant for both ranked groups. Such results might be due to the existence of noise traders and slower adjustment in stock prices. In addition, such finding is also related to the characteristics of such laws. *Correa et al. 2016* find a sigfniciant change in stock returns following the passage of the Say on Pay laws. Say on pay laws give shareholders the right to vote on executive pay structures, which raised the concerns for critics arguing that shareholders have assymetric

information compared to board of directors and cannot completely evaluate the amount worth of executives. Whether or not such argument is true, since the law itself provides the right directly to shareholders, market based performance will be significantly effected. In constrast, the *FISCMA* in Korea is a law that does not give direct rights to shareholders, but rather it is the firm's decision to lower the pay level or not due to political pressure from the public. In addition, *Correa et al. (2016)* uses total CEO compensation as the dependent variable, which means that these countries have been disclosing the amount of CEO pay even before the pasasge of Say on Pay laws. The *FISCMA* is different, since individual compensation was unknowned before 2013, and that shareholders cannot differentiate those that were paid excessively or not. Since decisions to previously registered executives and lowering annual compensation packages are decided within firms, accounting based measures can reflect the changes from the FISCMA, but market performance measures do not reflect such changes, since shareholders do not have public access to such information. Therefore, the event period for Table 6 (2013 to 2016) cannot fully capture the change in market based performance measures. It is arguable to say that since accounting based measures has risen and fell for both ranked groups, market based measures can be affected in a longer time series data. However, as previously mentioned, due to the

announcement of a newly revised *FISCMA* in 2016, I purposely do not extend the sample period in concerned with bias estimators.

[INSERT TABLE 7 HERE]

Corporate governance mechanism is an important factor influencing compensation packages. To investigate differences in the effects of the *FISCMA*, following the literature in Korea, I compare chaebol firms to non-chaebol firms and differences among security traded markets (Kospi vs Kosdaq). In addition, I also include board independence to proxy for the board of directors' ability to monitor managers (Core, Holthausen, and Larcker, 1999). Since the *FISCMA* only requires disclosure of realized compensation, firms also have the incentives of changing pay structures to less visible methods such as granting stock options. I separate groups that granted stock options during the sample period and those that have not. **Table 7** shows the results. *Proxy* in the first two columns of Panel A is a dummy variable that equals one if the firm is chaebol affiliated and zero otherwise. The results show a negative but a non-statistically significant coefficient. As *Kim et al. (2017)* argue, drastic changes in the corporate governance structure of

Chaebol firms were implemented in the late 2000s, which implies that large business conglomerates have already been monitored well. *Proxy* in the next two columns is a dummy variable that equals one if the firm is listed in the Kosdaq (Korean Securities Dealers Automated Quotations) market, which is an electronic trading platform similar to the Nasdaq in the U.S. and zero otherwise. Larger and more profitable firms are listed on the Kospi (Korea Composite Stock Price Index) market. Therefore, it is widely known that Kospi firms have better governance compared to Kosdaq firms, since Kospi firms are more opened to media attention and have stricter rules for initial public offerings. The results show that among the *top ranked group* firms, firms that are listed in the Kosdaq markets tend to decrease in executive compensation at a faster rate (*coefficient: -0.0897 standard error: 0.0536*) where market differences do not effect firms in the *bottom ranked group*. *Proxy* in the first two columns of Panel B is a dummy variable that equals one if the firm is above the median value of board independence, which is calculated as total independence directors over total directors. Board independence serves as an important mechanism for corporate governance, since tighter and more efficient monitoring can be achieved. The results show that while board independence does not affect firms within the *top ranked group*, *bottom ranked group* firms with higher board independence

experience a faster increase in executive compensation compared to other *bottom ranked group* firms (*coefficient: 0.1138, standard error: 0.0554*). These results are similar to that of *Kim et al. (2017)*, where they find that pay-performance sensitivity only increases for well-governed firms, following the passage of the *FISCMA*. Lastly, whether the main driving factor is political pressure or other fundamental firm characteristics, firms that have incentives to decrease executive pay by unregistering previously registered executives or decrease the amount of executive compensation by granting other types of salary that are less visible, such as stock options. *Proxy* in the next two columns is an option dummy, which equals one if the firm has issued stock options during the sample period and zero otherwise. As expected, the results show a statistically significant negative coefficient for *top ranked group* firms, which means that those that have granted stock options during the sample period had a steeper decrease in executive compensation *(coefficient: -0.1787 standard error: 0.0716)*. While I cannot capture the exact changes in individual compensation structures within firms, the results roughly conclude that firms within the *top ranked groups* attempted to circumvent the disclosure of individual compensation.

5. Political Pressure

Previous results of this paper have confirmed the existence of tournament incentives through changes in executive compensation, firm performance, and pay-performance sensitivity following the passage of the *FISCMA*. However, it is interesting to note that while both ranked groups show a positive relationship between the variables mentioned, they experience opposite trends. As previously mentioned, one reason for such results might be due to political pressure, similar to the argument of *Jensen and Murphy (1990)*, which states that public and private political forces effects pay-performance sensitivity. It can be argued that larger firms are more exposed to political pressure, since these firms are more opened to the media. Therefore, larger firms might experience a steeper change in executive compensation, firm performance and pay-performance sensitivity. However, since the characteristics of the *FISCMA* are not related to firm fundamental issues, this provides an alternative hypothesis that regardless of firm size, political pressure is imposed solely on the level of executive compensation in the pre-law period. If such political pressure is the main driving factor, then firm size characteristics would not induce any differences to the previous results. Furthermore, the matched sample estimation provides evidence if the

firms in the bottom ranked group were previously underpaid relative to their peer firms. I test for these hypotheses by using an optimal matching technique to match firms with similar firm size characteristics to those in both ranked groups. The most popular variables to measure firm size characteristics according to the literature is *total assets, total sales, and market value of equity*. **Table 8** shows the results. Panel A runs the same regression specification as in Eq (1) with a firm characteristic matched sample for *top*

[INSERT TABLE 8 HERE]

ranked group firms and show that all coefficients are negative and statistically significant at the 1% level. If political pressure was more severe in larger firms, the expected coefficient should have been insignificant. However, the results show that regardless of firm size, higher paying firms experienced a steeper decrease in executive compensation. Such results confirm that political pressure is indeed more severe in firms with high paid executive compensation, regardless of firm fundamentals including size characteristics. Panel B tests the same research specification using firm size characteristics for *bottom ranked group* firms and show similar results. This means that firms

within the bottom ranked group were being underpaid relative to their peer firms[1]. This finding is consistent with the previous literature proposing that disclosure practices reflect political considerations (Watts and Zimmerman 1986, Healty and Palepu 2001), while this study differs by providing evidence that political pressure is not only dependent on public openness, measured by firm size characteristics.

(1) I test additional robustness checks comparing companies that were already paying average executive compensation of more than 500 million KRW in the pre-law period and examined similar results (unreported).

6. Conclusion and Discussion

Executive pay is one of the most heavily debated features of corporate governance. Historically, regulatory changes have had mixed influences on patterns in executive compensation. This study examines changes in executive compensation policies following the passage of the 2013 *FISCMA* in Korea, which required listed firms to disclose individual compensation data for registered directors receiving more than 500 million KRW.

The analysis reaches three important findings. First, following the passage of the *FISCMA*, executive compensation in the *top ranked group* decreased while it increased in the *bottom ranked group*. Second, using the same group of firms, the *top ranked group* experienced a decrease in firm performance and pay-performance sensitivity in the post-law period. In contrast, using the same research specification, the *bottom ranked group* experienced an increase in firm performance and pay-performance sensitivity. Third, variations in firm size characteristics do not reveal any differences in the changes of executive compensation levels, which provides evidence that such results are driven by political pressure solely related to the level of executive compensation in the pre-law period rather than public openness.

Overall, the results of this paper confirms the existence of tournament incentives in executive compensation levels in Korea. While the newly amended disclosure law has brought efficient consequences for less paid firms, it has provided inefficient consequences against highly paid firms due to political pressures. However, such results are derived on average, imposing limitations to study compensation levels at the individual level. As reports from the *Economic Reform Research Institute* in Korea suggests, lowering the compensation threshold can provide opportunities for more meaningful research, since I cannot exclude the possibility that there exist executives performing managerial entrenchment mechanisms. Another limitation of this study is the unclear channel of the efficient benchmarking of the bottom ranked group firms. Previous literature has shown that firms target compensation packages of peer groups that are both within or outside of the same industries (Bizjak et al. 2008, Faulkender & Yang 2010) and this is consistent with the results of this paper. The executive pay disclosure rule following the 2013 *FISCMA*, might have given the bottom ranked group firms to examine a more transparent measure of average executive compensation of their peer groups, which allows them to efficiently change their compensation packages. These are left for future research. I hope that these results can contribute to future regulations regarding executive compensations.

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국문초록

임원 연봉 공개 법이 기업의 성과와 연봉 수준 변화에 미치는 영향

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2013년에 새롭게 개정된 자본시장법은 상장 기업 등기 임원중 5억 이상의 보수를 지급받는 경영진에 대해 개인 보수 정보를 공개하도록 요구했다. 한국의 상장 기업 1,341개를 2011년부터 2016년까지 분석한 결과, 법 개정 이전의 연봉수준이 상위 30%인 기업은 평균 임원 연봉이 줄어들고 기업 가치 또한 줄어드는 결과를 보였다. 반대로 하위 30%인 기업은 평균 임원 연봉이 증가하고 기업 가치 또한 증가하는 결과를 보였다. 경영진 보수에 관련해서 선행연구는 두 가지의 반대되는 시사점을 제공한다. 지대 추구 가설은 경영자가 성과에 비해 과한 연봉을 받는 다는 가설이고 토너먼트 이론은 경영자의 보수가 그 성과를 정확하게 반영하고 있다는 가설이다. 선행연구에서는 연봉 수준의 변화와

기업가치의 변화가 양(+)의 상관관계를 가지면 토너먼트 이론, 음(−)의 상관관계를 가지면 지대추구 가설을 지지한다고 주장한다. 결과적으로 이 논문은 한국의 임원 연봉 수준이 토너먼트 이론을 지지 하고 있다는 결과를 나타냈다. 이러한 결과는 기업들이 받는 정치적 부담에서 나온다는 점을 시사한다.

주요어: 자본시장법, 임원 평균 연봉, 토너먼트 인센티브, 정치적 부담

학번: 2018−21176

Table1
Summary Statistics

ExecutiveComp is the natural logarithm of average executive compensation. Independence is the ratio of outside directors over total directors. Option is a dummy variable, which equals one if the firm gave out stock options on year t. Size is the natural logarithm of total assets. ROA is return on assets, calculated as operating incomes divided by total assets. Ret is the annualized stock returns, calculated as the current year share price divided by the previous year share price. MB is the market value of common equity plus the book value of total liabilities divided by the book value of total assets. Leverage is the ratio of total debt divided by total assets. ForeignOwn is the percentage of share owned by foreign investors. InsiderOwn is the percentage of share hold by firm affiliated members. Salesgrowth is the change in sale from the previous year divided by total sales from the current year multiplied by 100. Netsales is the sum of a company's gross sales minus its returns, allowances, and discounts. Tobin's Q is the ratio of total book value of assets plus market value of equity minus book value of equity to total assets.

Variable	N	Mean	SD	Min	Max	Source
ExecutiveComp	8046	19.1294	0.8303	11.513	22.4218	*TS-2000*
Independence	8046	0.4092	0.1019	0.250	0.5710	*TS-2000*
Option	8046	0.2206	0.4147	0	1	*TS-2000*
High	8046	0.3005	0.4585	0	1	*DataGuide*
Low	8046	0.2997	0.4582	0	1	*DataGuide*
Size	8046	19.2264	1.5855	15.761	26.7039	*DataGuide*
ROA	8046	3.4430	7.1680	-21.240	23.3800	*DataGuide*
RET	8046	15.1580	53.9871	-64.040	260.0800	*DataGuide*
Leverage	8046	1.0452	1.4455	0.026	10.3387	*DataGuide*
M/B	8046	1.4975	1.4321	0.216	8.8945	*DataGuide*
ForeignOwn	8046	0.0672	0.1153	0	0.8973	*DataGuide*
InsiderOwn	8046	0.4023	0.1689	0.012	1	*DataGuide*
Netsales	8046	18.9732	1.6540	12.615	25.1388	*DataGuide*
Tobin's Q	8046	-0.0311	0.6133	-3.335	3.2543	*DataGuide*
Salesgrowth	8046	7.1530	52.4979	-100.000	1571.6100	*DataGuide*

Table 2
Spearman Correlations

This table presents the Spearman correlations between variables used in this study. Size is the natural logarithm of total assets. ROA is return on assets, calculated as operating incomes divided by total assets. Ret is the annualized stock returns, calculated as the current year share price divided by the previous year share price. MB is the market value of common equity plus the book value of total liabilities divided by the book value of total assets. Leverage is the ratio of total debt divided by total assets. ForeignOwn is the percentage of share owned by foreign investors. InsiderOwn is the percentage of share hold by firm affiliated members. Salesgrowth is the change in sale from the previous year divided by total sales from the current year multiplied by 100. Netsales is the sum of a company's gross sales minus its returns, allowances, and discounts. Tobin's Q is the ratio of total assets plus market value of equity minus book value of equity to total assets.

	ExecutiveComp	Size	ROA	RET	Leverage	M/B	ForeignOwn	InsiderOwn	Option	Netsales	Salesgrowth	Independence	Tobin's Q
ExecutiveComp	1												
Size	0.563	1											
ROA	0.254	0.161	1										
Ret	-0.043	-0.105	0.161	1									
Leverage	0.036	0.251	-0.209	-0.090	1								
M/B	-0.109	-0.182	-0.018	0.341	0.070	1							
ForeignOwn	0.313	0.475	0.216	-0.025	-0.021	0.036	1						
InsiderOwn	0.038	0.154	0.187	-0.022	-0.014	-0.206	-0.025	1					
Option	-0.047	-0.131	-0.075	0.013	-0.028	0.206	-0.024	-0.279	1				
Netsales	0.573	0.918	0.251	-0.090	0.216	-0.200	0.431	0.174	-0.163	1			
Salesgrowth	-0.028	-0.016	0.195	0.153	-0.027	0.091	0.001	-0.009	0.062	0.006	1		
Independence	0.237	0.315	0.003	0.003	0.138	-0.075	0.146	0.050	-0.066	0.296	-0.028	1	
Tobin's Q	-0.127	-0.384	0.021	0.122	0.041	0.678	-0.042	-0.238	0.226	-0.364	0.062	-0.116	1

Table 3
Mean Difference Test

This table documents differences in firm characteristics between the pre-law period to the event period. Size is the natural logarithm of total assets. ROA is return on assets, calculated as operating incomes divided by total assets. Ret is the annualized stock returns, calculated as the current year share price divided by the previous year share price. MB is the market value of common equity plus the book value of total liabilities divided by the book value of total assets. Leverage is the ratio of total debt divided by total assets. ForeignOwn is the percentage of share owned by foreign investors. InsiderOwn is the percentage of share hold by firm affiliated members. Salesgrowth is the change in sale from the previous year divided by total sales from the current year multiplied by 100. Netsales is the sum of a company's gross sales minus its returns, allowances, and discounts.

Top	2012		2013			
	(N=402)		*(N=402)*			
Variable	Mean	Std. dev.	Mean	Std. dev.	Difference	p-value
Size	20.3537	1.8668	20.3949	1.8659	-0.0412	0.7543
ROA	4.9155	6.2524	4.4877	5.8979	0.4278	0.3186
Ret	14.6622	45.6903	11.7258	40.6202	2.9364	0.3358
Leverage	1.1604	1.6247	1.2451	1.8897	-0.8473	0.4956
M/B	1.2230	0.9855	1.2557	0.9541	-0.0327	0.6327
ForeignOwn	0.1108	0.1382	0.1128	0.1401	-0.0040	0.6834
InsiderOwn	0.4092	0.16227	0.4086	0.1618	0.0006	0.9587
Salesgrowth	3.9801	28.5289	5.3485	44.5921	-1.3684	0.6044
Netsales	20.1675	1.8391	20.1915	20.0164	-0.0240	0.8511
Bottom	2012		2013			

	(N=402)		*(N=402)*			
Variable	Mean	Std. dev	Mean	Std. dev.	Difference	p-value
Size	18.3314	0.9755	18.3709	0.9814	-0.0396	0.5656
ROA	2.1327	7.7766	1.9799	7.7457	0.1528	0.7800
Ret	2.699	15.1067	1.0281	14.6050	1.6713	0.1107
Leverage	1.0091	1.2837	1.0404	1.3373	-0.0313	0.7351
M/B	1.4206	1.3893	1.4367	1.3518	-0.0162	0.8669
ForeignOwn	0.0330	0.0885	0.0357	0.0898	-0.0027	0.6627
InsiderOwn	0.3983	0.1769	0.3931	0.1785	0.0052	0.6806
Salesgrowth	6.1139	34.9619	8.2828	60.4966	-2.1689	0.5334
Netsales	18.0226	1.1819	18.0659	1.1807	-0.0433	0.6026

Table 4
FISCMA and Average Executive Compensation

This table presents estimates of changes in the level of executive compensation around the passage of the *FISCMA*. The dependent variable in Panel A is the natural logarithm of total average executive compensation. The dependent variable in Panel B is the natural logarithm of percentage change in average executive compensation, calculated as the change in average executive compensation from the previous year over average executive compensation from the current year multiplied by 100. Top Rank is the top 30% and Bottom Rank is the bottom 30% of firms ranked based on the level of executive compensation in the pre-law period. Rank groups on columns (1), (2) are measured within the whole sample and columns (3), (4) are measured within different industry sectors. All continuous variables are winsorized at the 1% level. The clustered standard errors appear in brackets below the parameter estimates. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Dependent Variable **Log (ExecutiveCompensation)**	(1) Coefficient *(standard errors)*	(2) Coefficient *(standard errors)*	(3) Coefficient *(standard errors)*	(4) Coefficient *(standard errors)*
Bottom	-0.7971***		-0.7825***	
	(0.0219)		(0.0221)	
Top		0.9743***		0.9424***
		(0.0212)		(0.0213)
FISCMA	0.0034	0.1332***	0.0013	0.1321***
	(0.0254)	(0.025)	(0.0252)	(0.0246)
Bottom*FISCMA	0.1973***		0.1972***	
	(0.0333)		(0.0336)	
Top*FISCMA		-0.2004***		-0.2157***
		(0.0324)		(0.0327)
Size	0.1537***	0.0932***	0.1322***	0.1142***
	(0.0159)	(0.0146)	(0.0168)	(0.0149)
ROA	0.0127***	0.0146***	0.0131***	0.0136***
	(0.0014)	(0.0013)	(0.0014)	(0.0013)
Leverage	-0.0360***	-0.0298***	-0.0351***	-0.0312***
	(0.0062)	(0.0062)	(0.0067)	(0.0063)
Ret	-0.0001	-0.0003	-0.0002	-0.0005
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
M/B	0.0123	0.0001	0.0129	-0.0059
	(0.0087)	(0.0082)	(0.0089)	(0.0083)
ForOwn	0.0839	-0.0584	0.0334	0.0174
	(0.0819)	(0.0714)	(0.0838)	(0.0726)
InsideOwn	-0.3138***	-0.2386***	-0.3193***	-0.2048***
	(0.0515)	(0.0491)	(0.0515)	(0.0496)
Salesgrowth	-0.0012***	-0.0014***	-0.0014***	-0.0013***
	(0.0004)	(0.0003)	(0.0003)	(0.0004)
Netsales	0.0878***	0.0936***	0.1044***	0.0801***

	(0.0148)	(0.0139)	(0.0157)	(0.0146)
N	5364	5364	5236	5236
R-Squared	0.5223	0.5693	0.5295	0.5744
Fixed Effects	Year	Year	Year and Industry	Year and Industry
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year	Firm and Year

Table 4
Continued

(Panel B)	(1)	(2)	(3)	(4)
Dependent Variable	Coefficient	Coefficient	Coefficient	Coefficient
Log (ΔExecutiveCompensation)	*(standard errors)*	*(standard errors)*	*(standard errors)*	*(standard errors)*
Bottom	-0.0035***		-0.0301***	
	(0.0013)		(0.0014)	
Top		0.0050***		0.0288***
		(0.0010)		(0.0012)
FISCMA	-0.0115***	0.0089***	-0.0090***	0.0109***
	(0.0011)	(0.0009)	(0.0010)	(0.0010)
Bottom*FISCMA	0.0322***		0.0345***	
	(0.0017)		(0.0017)	
Top*FISCMA		-0.0356***		-0.032***
		(0.0017)		(0.0017)
Control Variables	Yes	Yes	Yes	Yes
N	4023	4023	3927	3927
R-Squared	0.1103	0.1262	0.1223	0.1102
Fixed Effects	Year	Year	Year and Industry	Year and Industry
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year	Firm and Year

Table 5
Changes in Firm Performance

This table presents estimates of changes in firm valuation around the passage of *FISCMA*. The dependent variable is the natural logarithm of Tobin's Q, calculated as the ratio of total assets plus market value of equity minus book value of equity to total assets. Top is the top 30% and Bottom is the bottom 30% of firms ranked based on the level of executive compensation in the pre-law period. Rank groups on columns (1), (2) are measured within the whole sample and columns (3), (4) are measured within different industry sectors. All continuous variables are winsorized at the 1% level. Control variables are the same as the previous regression specification. The clustered standard errors appear in brackets below the parameter estimates. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable	Coefficient	Coefficient	Coefficient	Coefficient
Log (Tobin's Q)	*(standard errors)*	*(standard errors)*	*(standard errors)*	*(standard errors)*
Bottom	-0.0871***		-0.1013***	
	(0.0235)		(0.0233)	
Top		0.1326***		0.1588***
		(0.0251)		(0.0283)
FISCMA	0.0077	0.0383***	0.0072	0.0452***
	(0.0101)	(0.0113)	(0.0108)	(0.0123)
Bottom*FISCMA	0.0461***		0.0628***	
	(0.0163)		(0.0167)	
Top*FISCMA		-0.0486***		-0.0571***
		(0.0135)		(0.0139)
Size	-0.1307***	-0.1380***	-0.1572***	-0.1619***
	(0.0222)	(0.0223)	(0.0286)	(0.0285)
ROA	0.0118***	0.0118***	0.0119***	0.0118***
	(0.0013)	(0.0013)	(0.0014)	(0.0014)
Leverage	0.0248**	0.0254**	0.0319***	0.0316**
	(0.0101)	(0.0102)	(0.0121)	(0.0120)
Ret	-0.0016***	-0.0016***	-0.0017***	-0.0017***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
ForOwn	0.3262***	0.3102***	0.2985**	0.2820***
	(0.0985)	(0.0974)	(0.1134)	(0.1104)
InsideOwn	-0.2766***	-0.2656***	-0.2505***	-0.2393***
	(0.0596)	(0.0591)	(0.0667)	(0.0662)

Salesgrowth	-0.0001	-0.0001	-0.0001	0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Netsales	-0.0051	-0.0066	0.0082	0.0038
	(0.0181)	(0.0179)	(0.0218)	(0.0210)
N	5364	5364	5236	5236
R-Squared	0.6132	0.6163	0.6069	0.6021
Fixed Effects	Year	Year	Year and Industry	Year and Industry
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year	Firm and Year

Table 6
Pay-Performance Sensitivity

This table presents estimates of changes in pay-performance sensitivity measured as return on assets and annualized stock returns. The dependent variable is the natural logarithm of average executive compensation. Control variables are exactly the same as the previous regression specification. Rank groups on columns (1), (2) are measured within the whole sample and columns (3), (4) are measured within different industry sectors. The clustered standard errors appear in brackets below the parameter estimates. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Dependent Variable **Log (ExecutiveComp)**	(1) Coefficient *(standard errors)*	(2) Coefficient *(standard errors)*	(3) Coefficient *(standard errors)*	(4) Coefficient *(standard errors)*
FISCMA*ROA*Bottom	0.0092*			
	(0.0470)			
*ROA*Bottom*	-0.01157**			
	(0.0045)			
FISCMA*ROA*Top		-0.0144***		
		(0.0049)		
*ROA*Top*		0.0059		
		(0.0051)		
FISCMA*RET*Bottom			-0.0011	
			(0.0007)	
*RET*Bottom*			0.0008	
			(0.0005)	
FISCMA*RET*Top				-0.0002
				(0.0008)
*RET*Top*				-0.0002
				(0.0005)
FISCMA	0.0827	-0.591	0.1209***	-1.082***
	(0.0332)	(0.0367)	(0.0339)	(0.0320)
Control Variables	Yes	Yes	Yes	Yes
N	5364	5364	5364	5364
R-Squared	0.4385	0.4732	0.4325	0.4738
Fixed Effects	Year	Year	Year	Year
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year	Firm and Year

Table 7
Governance

This table presents the results of the baseline regression specifcation using different governance meausres. Proxy in the first two columns of Panel A is a Chaebol dummy, which equals one if the firm is chaebol affiliated and zero otherwise. Proxy in the last two columns of Panel A is a Market dummy, which equals one if the firm is listed in the Kosdaq market and zero otherwise. Proxy in the first two columns of Panel B is an Independence dummy, which equals one if the firm is above the median value of independence ratio, which is calculated as the total number of independent directors over total directors, and zero otherwise. Proxy in the last two columns of Panel B is an Option dummy, which equals one if the firm has issued stock options during the sample period and zero otherwise. All continuous variables are winsorized at the 1% level. The clustered standard errors appear in brackets below the parameter estimates. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

(Panel A) Dependent Variable **Log (ExecutiveComp)**	Chaebol Coefficient *(standard errors)*	Chaebol Coefficient *(standard errors)*	Market Coefficient *(standard errors)*	Market Coefficient *(standard errors)*
FISCMA*Bottom*Proxy	-0.0227		0.0145	
	(0.1693)		(0.0544)	
FISCMA*Top*Proxy		-0.0300		-0.0897*
		(0.1023)		(0.0536)
Bottom	-0.0634***		0.1754***	
	(0.0543)		(0.0576)	
Top		0.1196*		-0.0341
		(0.0613)		(0.0518)
FISCMA	0.1873	0.0309	-0.0029	0.0192
	(0.0543)	(0.0899)	(0.0275)	(0.0279)
Control Variables	Yes	Yes	Yes	Yes
N	648	648	3040	3040
R-Squared	0.5251	0.5735	0.5280	0.5752
Fixed Effects	Year	Year	Year	Year
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year	Firm and Year

(Panel B) Dependent Variable **Log (ExecutiveComp)**	High Independence Coefficient *(standard errors)*	High Independence Coefficient *(standard errors)*	Option Use Coefficient *(standard errors)*	Option Use Coefficient *(standard errors)*
FISCMA*Bottom*Proxy	0.1338**		0.0033	
	(0.0554)		(0.0708)	

FISCMA*Top*Proxy		-0.0505		-0.1787**
		(0.0584)		(0.0716)
FISCMA	-0.0373	0.0382	0.0472	0.0774*
	(0.0309)	(0.0335)	(0.0434)	(0.0413)
Bottom	-0.1745***		0.0976**	
	-0.0484		(0.0489)	
Top		0.1683***		0.1281**
		(0.0492)		(0.0556)
Control Variables	Yes	Yes	Yes	Yes
N	2530	2530	1233	1233
R-Squared	0.5449	0.5757	0.5245	0.5736
Fixed Effects	Year	Year	Year	Year
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year	Firm and Year

Table 8
Matched Sample

This table presents estimates of previously reported results using a matched sample. Panel A shows estimates of the baseline regression specification with a matched sample based on firm size characteristics measured as total assets, total sales and market value of equity. Panel B shows estimates of the baseline regression specificaiton with a matched sample based on firm performance measured as return on assets, annualized stock returns and net sales. Size is the total assets, total sales, and market value of equity. Firms in the high ranked group is matched with one of the firms in the non-high ranked group. The dependent variable is the natural logarithm of average executive compensation. All continuous variables are winsorized at the 1% level. The clustered standard errors appear in brackets below the parameter estimates. ***, **, and * indivate significance at the 1%, 5%, and 10% level, respectively.

(Panel A)	Total Assets	Total Sales	Market Cap
Dependent Variable	Coefficient	Coefficient	Coefficient
Log (ExecutiveComp)	*(standard errors)*	*(standard errors)*	*(standard errors)*
FISCMA*Top	-0.2114***	-0.2445***	-0.2183***
	(0.0362)	(0.0375)	(0.0369)
FISCMA	0.1447***	0.1632***	0.1448***
	(0.0321)	(0.0354)	(0.0322)
Top	0.9913***	1.0208***	0.9871***
	(0.0233)	(0.0237)	(0.0239)
Control Variables	Yes	Yes	Yes
N	3192	3192	3192
R-Squared	0.576	0.5636	0.5796
Fixed Effects	Year and Industry	Year and Industry	Year and Industry
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year

(Panel B)	Total Assets	Total Sales	Market Cap
Dependent Variable	Coefficient	Coefficient	Coefficient
Log (ExecutiveComp)	*(standard errors)*	*(standard errors)*	*(standard errors)*

FISCMA*Bottom	0.2071***	0.2179***	0.2385***
	(0.0383)	(0.0385)	(0.0383)
FISCMA	0.0149	-0.0072	-0.0113
	(0.0335)	(0.0350)	(0.0350)
Bottom	-0.8148***	-0.8035***	-0.8159***
	(0.0235)	(0.0236)	(0.0234)
Control Variables	Yes	Yes	Yes
N	3200	3200	3200
R-Squared	0.403	0.3904	0.4035
Fixed Effects	Year and Industry	Year and Industry	Year and Industry
Clustered Standard Errors	Firm and Year	Firm and Year	Firm and Year